Optimized Passive Heating for Multifamily Dwellings

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Abstract : A method of decreasing the heating load of HVAC systems in a single-dwelling model of a multifamily building, by controlling movable insulation through the optimization of flux, time, surface incident solar radiation, and temperature thresholds. Simulations are completed using a co-simulation between EnergyPlus and MATLAB as an optimization tool to find optimal control thresholds. Optimization of the control thresholds leads to a significant decrease in total heating energy expenditure.

Keywords : energy plus, MATLAB, simulation, energy efficiency
Conference Title : ICCSPES 2021 : International Conference on Control, Signal Processing and Energy Systems
Conference Location : New York, United States
Conference Dates : December 09-10, 2021